

Borehole

50-07-07Log Event **A****Borehole Information**

Farm : <u>T</u>	Tank : <u>T-107</u>	Site Number : <u>299-W10-142</u>
N-Coord : <u>43,397</u>	W-Coord : <u>75,650</u>	TOC Elevation : <u>672.95</u>
Water Level, ft : <u>0.6</u>	Date Drilled : <u>3/31/1974</u>	

Casing Record

Type : <u>Steel-welded</u>	Thickness : <u>0.237</u>	ID, in. : <u>4</u>
Top Depth, ft. : <u>0</u>	Bottom Depth, ft. : <u>91</u>	
Type : <u>Steel-welded</u>	Thickness : <u>0.280</u>	ID, in. : <u>6</u>
Top Depth, ft. : <u>0</u>	Bottom Depth, ft. : <u>94</u>	

Equipment Information

Logging System : <u>1</u>	Detector Type : <u>HPGe</u>	Detector Efficiency: <u>35.0 %</u>
Calibration Date : <u>03/1995</u>	Calibration Reference : <u>GJPO-HAN-1</u>	

Logging Information

Log Run Number : <u>1</u>	Log Run Date : <u>4/12/1995</u>	Logging Engineer: <u>Bob Spatz</u>
Start Depth, ft.: <u>89.0</u>	Counting Time, sec.: <u>200</u>	L/R : <u>R</u> Shield : <u>N</u>
Finish Depth, ft. : <u>13.0</u>	MSA Interval, ft. : <u>n/a</u>	Log Speed, ft/min.: <u>0.3</u>

Log Run Number : <u>2</u>	Log Run Date : <u>4/13/1995</u>	Logging Engineer: <u>Bob Spatz</u>
Start Depth, ft.: <u>11.0</u>	Counting Time, sec.: <u>200</u>	L/R : <u>R</u> Shield : <u>N</u>
Finish Depth, ft. : <u>0.0</u>	MSA Interval, ft. : <u>n/a</u>	Log Speed, ft/min.: <u>0.3</u>

Borehole

50-07-07**Log Event A**

Analysis Information

Analyst : D.C. StromswoldData Processing Reference : Data Analysis Manual Ver. 1Analysis Date : 7/7/1995**Analysis Notes :**

This borehole was double cased in the early 1980's. The outer casing was perforated from 0 to 20 ft and approximately 89 to 91 ft. Grout was pumped into the annulus between the casings, and an unknown amount of the grout flowed into the formation through the perforations. This borehole configuration makes it impossible to determine accurate radionuclide concentrations; the system calibrations do not have a grout correction, and there is an unknown grout thickness from 0 to 20 ft and 89 to 91 ft. As a result, the reported concentrations can only be considered relative to other concentrations in the borehole.

This borehole was logged in two dynamic (0.3'/minute) log runs: run 1 from 89 to 13 ft and run 2 from 12 to 0 ft with no depth overlap. The pre- and post-survey field verification spectra showed consistent peak activities for both runs, but energy calibrations differed due to gain drift in the instrumentation. Spectra in the middle of both log runs were recalibrated for energy vs. channel.

The total measured casing thickness is 0.4375 in. The casing correction used was that for 0.650 in. Although the reported water level was 79.0 ft, no water correction was applied, because the resulting water correction clearly distorted the results.

Naturally occurring K-40, U-23, and Th-232 concentrations were calculated and plotted, but they probably do not reflect the stratigraphy due to the attenuation and nuclide content in the grout.

Cs-137 was the only man-made radionuclide detected, occurring almost continuously from the surface to about 22 ft and at a higher concentration at 45 ft (13 pCi/g).

Log Plot Notes:

Separate log plots show the man-made and the naturally occurring radionuclides. The natural radionuclides can be used for lithology interpretations. The headings of the plots identify the specific gamma rays used to calculate the concentrations. Uncertainty bars on the plots show the statistical uncertainties for the measurements as 95-percent confidence intervals. Open circles on the plots give the MDL. The MDL of a radionuclide represents the lowest concentration at which positive identification of a gamma-ray peak is statistically defensible.

A combination plot includes the man-made and natural radionuclides, the total gamma derived from the spectral data, and the Tank Farms gross gamma log. The gross gamma plot displays the latest available digital data. No attempt has been made to adjust the depths of the gross gamma logs to coincide with the SGLS data.